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Snap Action Switch

D2F

Subminiature Snap Action Switch

- Super compact, ideal for PCB mounting
- Switches 3 A loads (general-purpose), 1 A loads (low force general-purpose) and 0.1 A loads (microvoltage/microcurrent)
- Long life span assured by high-precision dual spring reverse-action mechanism
- Flux penetration prevented by using an insert terminal and allowing a height difference at the case bottom
- Ideal for a wide variety of applications from household appliances and office equipment to audio equipment and communications equipment

Ordering Information

Actuator	Contact type	Model	Contact OF	Part number: Terminal type PCB	Self-supporting	Soldered	Right-angle	Left-angle
Pin plunger	Microvoltage/ current	Low force	75 g	**D2F-01F**	**D2F-01F-T**	**D2F-01F-D**	**D2F-01F-A**	**D2F-01F-A1**
		Standard	150 g	**D2F-01**	**D2F-01-T**	**D2F-01-D**	**D2F-01-A**	**D2F-01-A1**
	General-purpose	Low force	75 g	**D2F-F**	**D2F-F-T**	**D2F-F-D**	**D2F-F-A**	**D2F-F-A1**
		Standard	150 g	**D2F**	**D2F-T**	**D2F-D**	**D2F-A**	**D2F-A1**
Hinge lever	Microvoltage/ current	Low force	25 g	**D2F-01FL**	**D2F-01FL-T**	**D2F-01FL-D**	**D2F-01FL-A**	**D2F-01FL-A1**
		Standard	80 g	**D2F-01L**	**D2F-01L-T**	**D2F-01L-D**	**D2F-01L-A**	**D2F-01L-A1**
	General-purpose	Low force	25 g	**D2F-FL**	**D2F-FL-T**	**D2F-FL-D**	**D2F-FL-A**	**D2F-FL-A1**
		Standard	80 g	**D2F-L**	**D2F-L-T**	**D2F-L-D**	**D2F-L-A**	**D2F-L-A1**
Simulated roller lever	Microvoltage/ current	Low force	40 g	**D2F-01FL3**	**D2F-01FL3-T**	**D2F-01FL3-D**	**D2F-01FL3-A**	**D2F-01FL3-A1**
		Standard	80 g	**D2F-01L3**	**D2F-01L3-T**	**D2F-01L3-D**	**D2F-01L3-A**	**D2F-01L3-A1**
	General-purpose	Low force	40 g	**D2F-FL3**	**D2F-FL3-T**	**D2F-FL3-D**	**D2F-FL3-A**	**D2F-FL3-A1**
		Standard	80 g	**D2F-L3**	**D2F-L3-T**	**D2F-L3-D**	**D2F-L3-A**	**D2F-L3-A1**
Roller lever	Microvoltage/ current	Low force	40 g	**D2F-01FL2**	**—**	**D2F-01FL2-D**	**D2F-01FL2-A**	**D2F-01FL2-A1**
		Standard	80 g	**D2F-01L2**	**D2F-01L2-T**	**D2F-01L2-D**	**D2F-01L2-A**	**D2F-01L2-A1**
	General-purpose	Low force	40 g	**D2F-FL2**	**D2F-FL2-T**	**D2F-FL2-D**	**D2F-FL2-A**	**D2F-FL2-A1**
		Standard	80 g	**D2F-L2**	**D2F-L2-T**	**D2F-L2-D**	**D2F-L2-A**	**D2F-L2-A1**

Specifications

■ CHARACTERISTICS

Operating speed		1 to 500 mm/second (0.04 to 19.7 in./second)
Operating frequency	Mechanical	200 operations per minute (pin plunger actuator type)
	Electrical	30 operations per minute (pin plunger actuator type)
Contact resistance	General-purpose type	30 mΩ max. (initial)
	Microvoltage/ microcurrent load type	100 mΩ max. (initial)
Insulation resistance		100 MΩ min. at 500 VDC
Dielectric strength		600 VAC, 50/60 Hz for 1 minute between terminals of same polarity 1,500 VAC, 50/60 Hz for 1 minute between current-carrying parts and ground
Vibration	Malfunction durability	10 to 55 Hz, 1.5 mm double amplitude
Shock	Malfunction durability	300 m/s² min. (approx. 30 g min.)
Ambient temperature	Operating	-25° to 65°C with no icing
Humidity	Operating	45% to 85% ay 5° to 35°C
Service life	Mechanical	1 million operations min. (OT: full stroke)
	Electrical	30,000 operations min. (rated load)
Weight		Approx. 0.5 g

Note: Data shown are of initial value.

■ OPERATING CHARACTERISTICS

	Part number				
Characteristics	D2F-01F-□, D2F-F-□	D2F-01-□, D2F-□	D2F-01FL-□, D2F-FL-□	D2F-01L-□, D2F-L-□	D2F-01FL3-□, D2F-FL3-□
OF max.	75 g	150 g	25 g	80 g	40 g
RF min.	5 g	20 g	2 g	5 g	2 g
PT max.	0.5 mm (0.020 in)	0.5 mm (0.020 in)	—	—	—
OT min.	0.25 mm (0.009 in)	0.25 mm (0.009 in)	0.55 mm (0.022 in)	0.55 mm (0.022 in)	0.5 mm (0.020 in)
MD max.	0.12 mm (0.005 in)	0.12 mm (0.005 in)	0.5 mm (0.020 in)	0.5 mm (0.020 in)	0.45 mm (0.177 in)
OP	5.5 ± 0.3 mm (0.22 ± 0.012 in)	5.5 ± 0.3 mm (0.22 ± 0.012 in)	6.8 ± 1.5 mm (0.267 ± 0.059 in)	6.8 ± 1.5 mm (0.267 ± 0.059 in)	8.5 ± 1.2 mm (0.335 ± 0.047 in)
FP max.	—	—	10 mm (0.394 in)	10 mm (0.394 in)	13 mm (0.512 in)

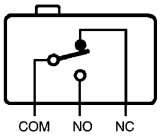
	Part number		
Characteristics	D2F-01L3-□, D2F-L3-□	D2F-01FL2-□, D2F-FL2-□	D2F-01L2-□, D2F-L2-□
OF max.	80 g	40 g	80 g
RF min.	5 g	2 g	5 g
PT max.	—	—	—
OT min.	0.5 mm (0.020 in)	0.55 mm (0.022 in)	0.55 mm (0.022 in)
MD max.	0.45 mm (0.177 in)	0.5 mm (0.020 in)	0.5 mm (0.020 in)
OP	8.5 ± 1.2 mm (0.335 ± 0.047 in)	13 ± 2.0 mm (0.512 ± 0.079 in)	13 ± 2.0 mm (0.512 ± 0.079 in)
FP max.	13 mm (0.512 in)	16.5 mm (0.650 in)	16.5 mm (0.650 in)

■ RATINGS

	Resistive load			
	Microvoltage/current		General-purpose	
Rated Voltage	Low force	Standard	Low force	Standard
125 VAC	—	—	1 A	3 A
30 VDC	0.1 A	0.1 A	0.5 A	2 A

Note: When using an inductive load or motor load, consult OMRON.

■ CONTACT FORM



■ APPROVALS

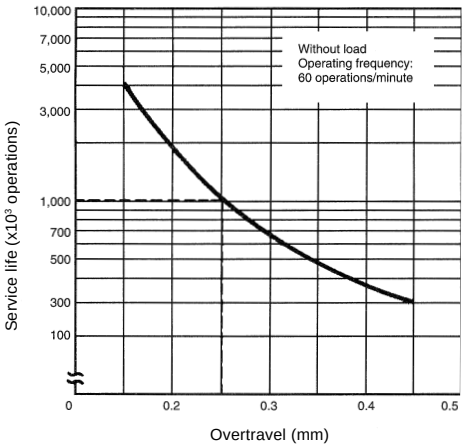
UL (File No. E41515), CSA (File No. LR21642), IEC 1058-1, EN conforms 61058-1

Type	Rating
D2F Series, D2F-01 Series	3 A, 125 VAC 1 A, 125 VAC 2 A, 30 VDC 0.5 A, 30 VDC 0.1 A, 30 VDC

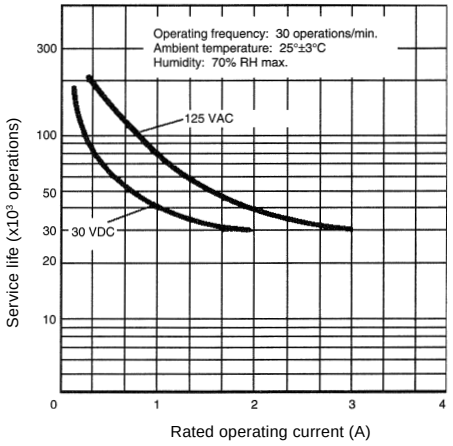
Note: The rated values approved by each of the safety standards (e.g. UL, CSA) may be different from the performance characteristics individually defined in this catalog.

Engineering Data

Mechanical service life



Electrical service life



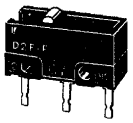
Note: 1. Values are for pin plunger actuator type.

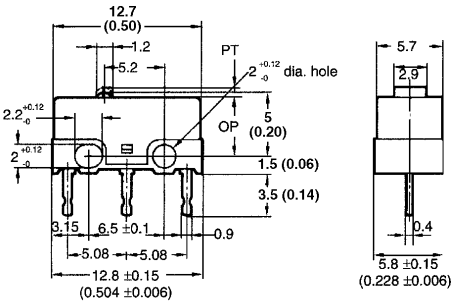
Dimensions

Unit: mm (inch)

■ PIN PLUNGER

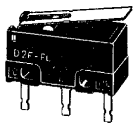
D2F-01-□
D2F-01F-□
D2F-□
D2F-F-□

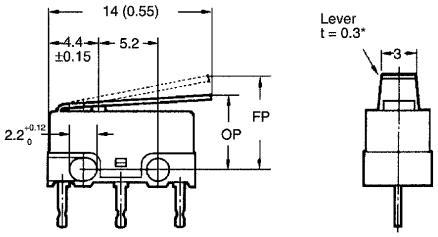




■ HINGE LEVER

D2F-01L-□
D2F-01FL-□
D2F-L-□
D2F-FL-□

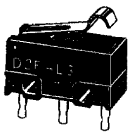


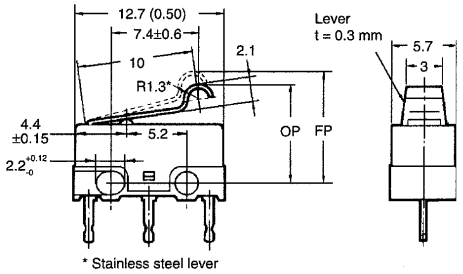


* Stainless copper lever

■ SIMULATED ROLLER LEVER

D2F-01L3-□
D2F-01FL3-□
D2F-L3-□
D2F-FL3-□

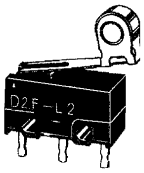


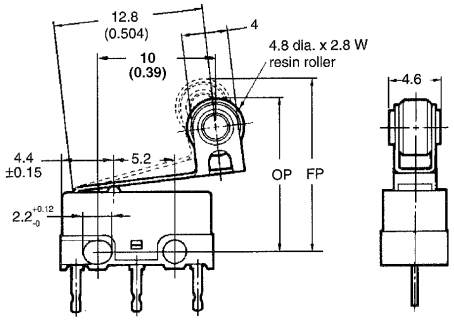


* Stainless steel lever

■ ROLLER LEVER

D2F-01L2-□
D2F-01FL2-□
D2F-L2-□
D2F-FL2-□

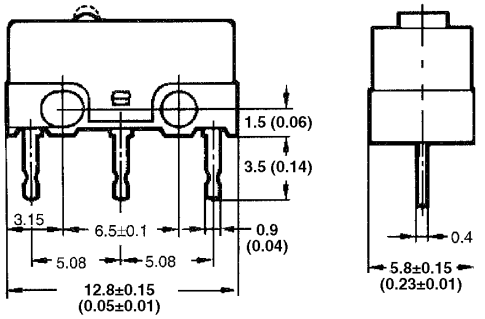




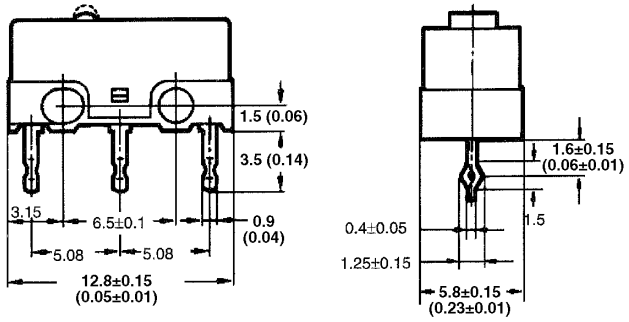
Note: 1. Unless otherwise specified, a tolerance of ± 0.4 mm applies to all dimensions.
2. Omitted dimensions are the same as pin plunger type.
3. Letters and numbers which identify the terminal are put in the blank box of the part number.
4. The above illustrations and dimensions are for models with PCB terminals. Refer to “Terminals” for models with self-supporting, solder and right/left angle terminals.

■ TERMINALS

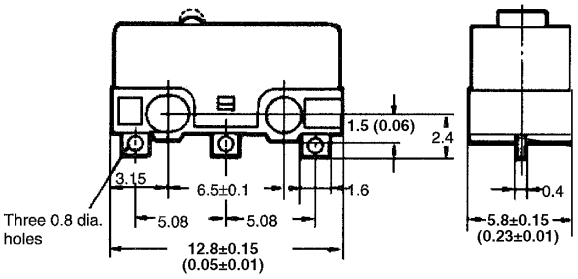
D2F type
PCB terminal



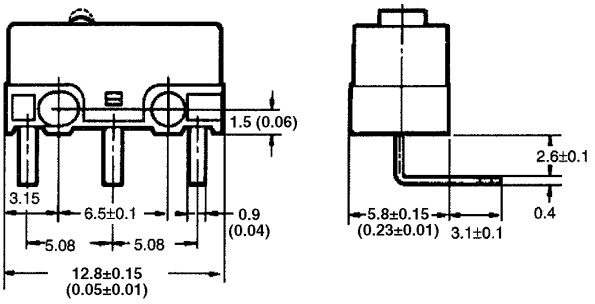
D2F-T type
Self-supporting terminal



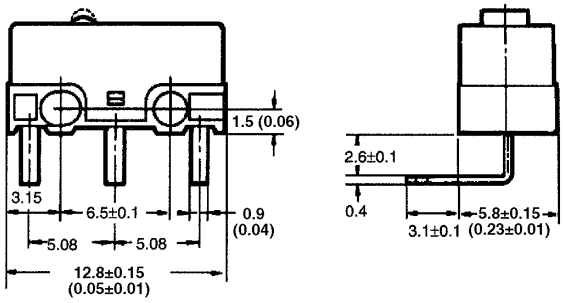
D2F-D type
Soldered terminal



D2F-A type
Right-angle terminal



D2F-A1 type
Left-angle terminal

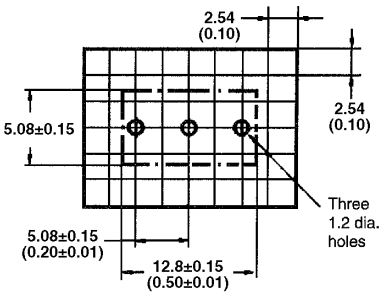


Precautions

■ MOUNTING

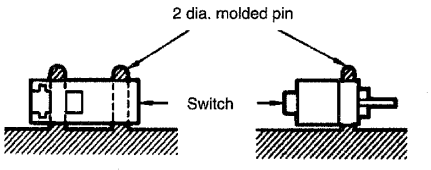
Mount the D2F switch onto the PC board as shown in the following diagram, using 2-pitch (2 x 2.54 mm) terminal spacing.

■ PC BOARD MACHINING



■ DIMENSIONS

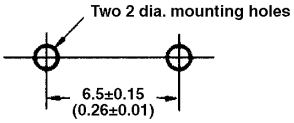
The use of molded components is recommended for mounting purposes.



■ MOLDED PIN MOUNTING DIAGRAM

When screw mounting, use M2 screws together with washers. Fasten the screws applying 0.8 to 1 kg-cm tightening torque.

■ MOUNTING HOLE MACHINING



■ DIMENSIONS

When soldering, use 6:4 solder and a 60 W soldering iron, and complete soldering within 3 seconds. After soldering, do not apply external force to the soldered area for about 1 minute.

Allow sufficient insulation distance between terminals and between terminals and ground.

NOTE: DIMENSIONS ARE SHOWN IN MILLIMETERS. To convert millimeters to inches divide by 25.4.

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